What is claimed is:

1. A passive transponder identification system for detecting and monitoring the existing of automobiles and other object within a constant detection area comprising a transmitter 100 to radiate two different RF signals within the area to a receiving antenna 110, either of the signals being modulated to a fixed low frequency (LF) and an antenna 210 modulated with two different center frequencies; wherein an impedance semiconductor circuit part 220 inserted into said modulated antenna combines said two RFs; and the identification system further includes a transponder 200 having a tank circuit to contain a resonant frequency equal to sum of two different frequencies to re-radiate a data-tone carrier signal to such combined frequency and a narrow-bandwidth receiver 300 having a receiving antenna 310 to receive and demodulate said carrier signal by excluding the transmitting RF signal and its harmonics to detect LF modulating signal.

2. The system according to Claim 1, wherein the system detects the digital data signal overlapped by a narrow bandwidth receiver 300 which is a means to start the digital stream preset to indicate the exist of the

transponder 200 within the detection area whenever the intensity and duration of the signal occurred in the transponder 200 and detected by the narrow bandwidth receiver 300 exceed minimum values thereof.

3. The system according to Claim 1, wherein LF modulation as one of the transmitted RF signals is a tone-modulated high frequency (HF) wave f1 generated by the narrow bandwidth frequency modulation, the other of the RF signals transmitting a continuous wave among the fixed RFs.

4. The system according to Claim 3, wherein LF modulation comprises the continuous tone-modulation RF signals and makes those to be within a defined frequency range.

5. The system according to Claim 1, wherein the transponder 200 comprises a charge pump circuit 230 connected to a longitudinal part placed in a space surrounded by close loop area faced each other to provide a tank circuit to tune with the second harmonics resonant frequency; and a dielectric folded dipole antenna 210 and a non-linear impedance semiconductor circuit 220.

6. The system according to Claim 5, wherein the non-linear impedance circuit connects both sides of closed loop area at one end of the antenna in order to form a tuning

tank circuit having a frequency higher than the selected frequency by 2 times as the resonant frequency thereof.

7. The system according to Claim 1, wherein the narrow-bandwidth receiver 300 comprises a receiving antenna 310 for carrier signal; a filter 311 to block all signals other than the narrow-bandwidth signal generated at the transponder resonant frequency; a demodulator detecting signal width by comparing width of the filtered carrier signal and running the comparison-determination output, detecting said LF modulation only when said comparison-determination exceeds the preset reference level and responding dependent on the comparison-determination of a comparator 312.

8. The system according to Claim 7, wherein the modulation detection responds to LF modulation to activate the data stream output for minimum time after starting said LF modulation detection.

9. The system according to Claim 7, wherein it includes a band pass filter 311 to prevent signals except the one within the narrow-bandwidth received by the receiving antenna 310 and generated in the resonant circuit of the transponder, a series of means to produce intermediate frequency IF for demodulating signals within the pass-band of said filter 311; alternative amplifiers 321,322

to compare and determine width of IF; and a narrow-bandwidth correction discriminator 323 to respond depending on the comparison-determination output to demodulate said IF to allow a comparator 312 to generate LF signal only when the width of comparison-output exceeds a pre-determined threshold.

10. The system according to Claim 9, wherein LF modulation as one of RF signals within narrow RF deviation limits comprises a constant tone-modulation; the narrow-bandwidth receiver 300 accepts a phase locked telecommunication way by VCO 324 to tune with said constant tone frequency and activate an amplifier 340 connected to the output to allow digital data stream to run for a constant period.

11. A system to detect cars or other objects existing within the detection area comprising a transmitter 100 to run and radiate RFs having a narrow-bandwidth by using a carrier frequency modulated by a certain LF tone; wherein the system includes a transponder 200 to respond the signal from the transmitter 100 to be radiated by the transmitter 100 to run and re-radiate the carrier signal by different harmonics; the re-radiated signal comprising a fixed LF tone produced by adding a data stream to the LF tone; the system further

comprises a receiving system 300 having a narrow-bandwidth filter 311 to contain the carrier signal re-radiated at said harmonics so that it produces filtered output corresponding the re-radiation signal received by an antenna 310 to receive said re-radiated carrier signal and to prevent the signals including ones of even the frequencies other than the narrow-bandwidth received by the antenna 310; and having a demodulation means responding to the comparison level of the output to generate LF modulation signal and demodulate the filtered output even when the comparator 312 exceeds the preset threshold value and runs.

12. The system according to Claim 11, wherein the receiving system has a series of demodulating means to respond to the detection of LF modulation activating output for minimum time after starting the monitoring of LF demodulation signal.

13. The system according to Claim 11, wherein RF signal having narrow bandwidth comprises a stable carrier modulated by a fixed audio-tone; said narrow bandwidth filter 311 includes a local oscillator 314, a mixer 319 to drive the intermediate frequency signal and a correction filter 324; a series of means run by comparison-determination process within the pass-band

for amplifying the intermediate signals to modulate the signal from the correction filter 324 detects width corresponding to the output width from such correction filter 324; such multiple modulating means comprises a clamp circuit 325 responding to the comparison-determination to fix the outputs from a narrow-bandwidth frequency discriminating device and the correction discriminator 323 so that a fixed tone modulation signal is generated during output process; and the comparison-determination by the comparator 312 being excluded when the determined value exceeds the threshold value.

14. The system according to Claims 11 or 13, wherein the receiving system 300 includes said several demodulating means to run the digital data stream output for a constant period and the digital code stream ranged of 64 bits to 16 kilobits dependent on memory circuit attached within the passive transponder 200.

15. Credit card type transponder comprising 400MHz-25GHz of high frequency RFID transponder 200 consisted of a dipole antenna 211, a slot antenna 212 and a semiconductor circuit part 200; said RFID transponder 200 equipped within a normal credit card 10.

16. The credit card type transponder according to Claim 15, wherein it contains an antenna 212 having thin plated

slot structure used in 400MHz-25GHz of high frequency RFID; alternative antenna 211 having dipole RFID structure; and a semiconductor circuit 220 at center part of the slot, the circuit being equipped into one side of the credit card 10 wider than the opposite side based on a magnetic band 11.

17. The credit card type transponder according to Claim 15, wherein the card 10 is equipped with the slot antenna 212 made of a thin plated conductor and having λ/4 wavelength at its center part; and a horn-shape tapered slot antenna 213 having slot width radiately extended up to 90° angle.

18. The credit card type transponder according to Claim 17, wherein two slot antennas 212 are arranged perpendicular to each other to form dual-polarization so that it increases transmission gain and reduces trouble in connection with orientation of antenna; and both of the dipole antennas 211 are positioned at both end parts of the transponder, respectively.

19. Credit card type transponder system comprising an interrogator 40 to directly identify RFID credit card 10 placed in a driving car, a device 44 to detect and sort type of the car, a video system 45 to photograph plate number of illegally passing car and an identification

and control computer 41 to identify the RFID credit card of the car passing the tollgate; wherein data from the identification computer 41 are transmitting to a known management computer 42 for collecting fare, a central computer 43 and a VAN 46.

20. The credit card type transponder system according to Claim 19, wherein the system allows the RFID credit card 10 to be easily taken out by any charging system or recovered by a user, in different manners such as inserting or holding the card 10 on a card holding stand 32 and placing it on the dashboard of car, installing a card clip 31 made of PVC material behind the room mirror or inserting the card into a card pocket 33 made of clear vinyl material and the like to show driver's intention to pay the fare.

21. The credit card type transponder system according to Claim 19, wherein said RFID interrogator 40 is positioned in a level of 4.5m from the road ground at upper center part thereof, and a camera 45a of the video system 45 is located at the same level but 20m backward from it and, at cross road, both of them being arranged to Beacon orientation opposite to each other to reduce mutual interference to a minimum degree.

22. The system according to Claim 1, wherein it further includes a remote identification RFID interrogator 40 to directly identify RFID credit card 10 placed in a driving car and a management computer 42 for collecting fare to be applicable to any automatic charging systems for parking lot and/or gas station.